

WHAT IS CLAIMED IS:

- 1 *Sub B1* 1. A method for identifying a compound that modulates sensory  
2 signaling in sensory cells, the method comprising the steps of:  
3 (i) contacting the compound with a sensory cell specific G-protein  
4 beta polypeptide, the polypeptide comprising greater than 70% amino acid sequence  
5 identity to an amino acid sequence of SEQ ID NO:3 or SEQ ID NO:5; and  
6 (ii) determining the functional effect of the compound upon the  
7 polypeptide.
- 1 2. The method of claim 1, wherein the polypeptide specifically binds  
2 to polyclonal antibodies generated against SEQ ID NO:3 or SEQ ID NO:5.
- 1 3. The method of claim 1, wherein the functional effect is a chemical  
2 effect.
- 1 4. The method of claim 1, wherein the functional effect is a physical  
2 effect.
- 1 5. The method of claim 1, wherein the functional effect is determined  
2 by measuring changes in intracellular cAMP, cGMP, IP<sub>3</sub>, DAG, or Ca<sup>2+</sup>.
- 1 6. The method of claim 5, wherein the changes in intracellular cAMP  
2 or cGMP are measured using immunoassays.
- 1 7. The method of claim 1, wherein the functional effect is determined  
2 by measuring binding of radiolabeled GTP to a G protein comprising the polypeptide, or  
3 to the polypeptide.
- 1 8. The method of claim 1, wherein the functional effect is determined  
2 by measuring changes in intracellular Ca<sup>2+</sup>.
- 1 9. The method of claim 1, wherein the polypeptide is expressed in a  
2 cell or cell membrane.

1                    10.    The method of claim 9, wherein the functional effect is determined  
2 by measuring changes in the electrical activity of the cell or the cell membrane expressing  
3 the polypeptides.

1                    11.    The method of claim 10, wherein the changes in the electrical  
2 activity are measured by an assay selected from the group consisting of a voltage clamp  
3 assay, a patch clamp assay, a radiolabeled ion flux assay, and a fluorescence assay using  
4 voltage sensitive dyes.

1                    12.    The method of claim 9, wherein the cell is a eukaryotic cell.

1                    13.    The method of claim 1, wherein functional effect is determined by  
2 measuring changes in the level of phosphorylation of taste cell specific proteins.

1                    14.    The method of claim 1, wherein the functional effect is determined  
2 by measuring changes in transcription levels of taste cell specific genes.

1                    15.    The method of claim 1, wherein the polypeptide is linked to a solid  
2 phase.

1                    16.    The method of claim 15, wherein the polypeptide is covalently  
2 linked to a solid phase.

1                    17.    The method of claim 1, wherein the polypeptide is recombinant.

1                    18.    The method of claim 1, wherein the polypeptide is from a human, a  
2 mouse or a rat.

1                    19.    The method of claim 1, wherein the polypeptide has an amino acid  
2 sequence of SEQ ID NO:3 or SEQ ID NO:5.

1 *Pub B2*           20.    A method for identifying a compound that modulates sensory  
2 signaling in sensory cells, the method comprising the steps of:  
3                    (i) expressing a sensory cell specific G-protein beta polypeptide in  
4 a host cell, wherein the G-protein beta polypeptide has greater than 70% amino acid  
5 sequence identity to a polypeptide having a sequence of SEQ ID NO:3 or SEQ ID NO:5;

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- 7 (ii) expressing a promiscuous G-protein alpha polypeptide and a  
8 sensory cell specific G-protein coupled receptor in the host cell,  
9 (iii) contacting the host cell with the compound that modulates  
10 sensory signaling in sensory cells; and  
11 (iv) determining changes in intracellular calcium levels in the host  
cell, thereby identifying the compound that modulates sensory signaling in sensory cells.

*Add C1*

*Adda!*